

FIG. 1 is a block diagram of a neural network layer. The diagram shows the flow of data from an input to an output through various processing blocks. The input is labeled 101 and is connected to a block labeled 201, which is a "WEIGHTED DISTRIBUTION" block. The output of block 201 is connected to a block labeled 103, which is a "THRESHOLDING" block. The output of block 103 is connected to a block labeled 105, which is an "OUTPUT" block. The diagram also includes a dashed box containing several blocks: a block labeled 203, which is a multiplication block ($\times k$); a block labeled 205, which is an addition block ($+$); a block labeled 207, which is an addition block ($+$); a block labeled 209, which is a "WEIGHTED DISTRIBUTION" block; and a block labeled 117, which is a multiplication block ($\times \beta$). The diagram also includes a block labeled 109, which is a subtraction block ($-$), and a block labeled 115, which is an addition block ($+$). The diagram also includes a block labeled 107, which is an "INITIAL THRESHOLD VALUE" block. The diagram also includes a block labeled 113, which is an "INVERSION" block. The diagram also includes a block labeled 109, which is a subtraction block ($-$), and a block labeled 115, which is an addition block ($+$).

[illegible]

FIG. 3

FIG. 3

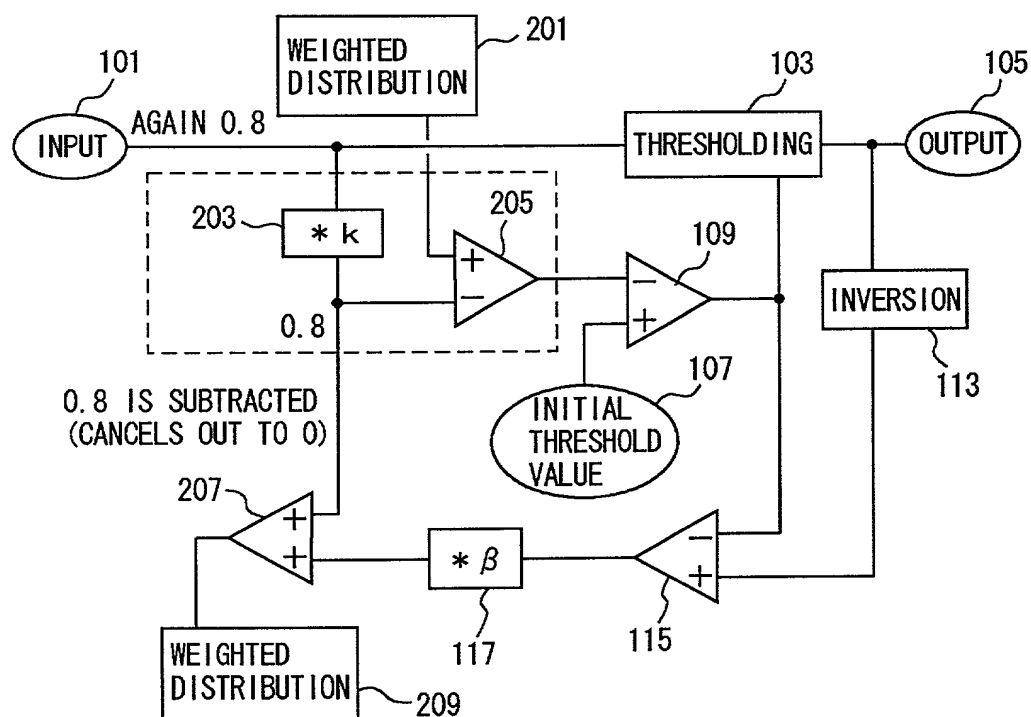
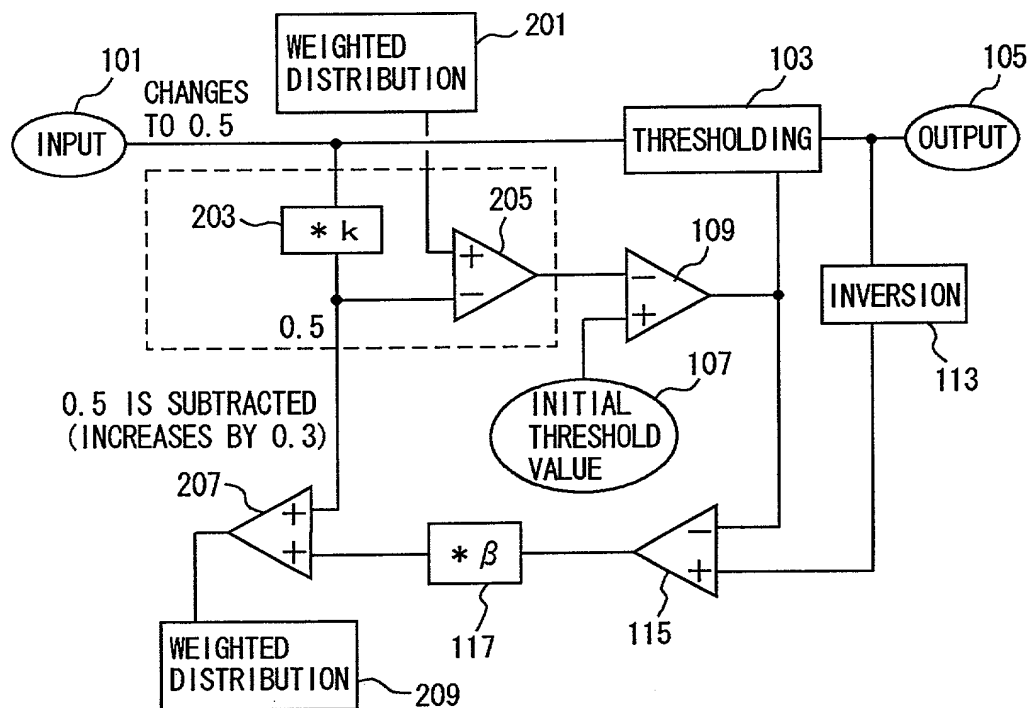
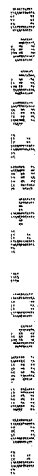


FIG. 4



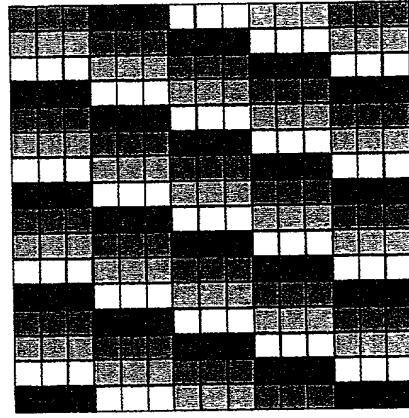
Variable	Mean	SD	Min	Max
Age	34.5	10.2	22	55
Gender	Male	Female		
Marital status	Married	Single		
Education	High school	College		
Occupation	Manager	Worker		
Income	Low	High		
Health status	Good	Poor		
Smoking status	Smoker	Non-smoker		
Alcohol consumption	Regular	Occasional		
Exercise frequency	High	Low		
Stress level	High	Low		
Sleep quality	Good	Poor		
Dietary habits	Healthy	Unhealthy		
Family size	Small	Large		
Religious beliefs	Religious	Secular		
Political views	Conservative	Liberal		
Travel frequency	High	Low		
Pet ownership	Yes	No		
Home ownership	Owner	Renter		
Car ownership	Yes	No		
Internet usage	High	Low		
Mobile phone usage	High	Low		
Video game usage	High	Low		
Reading frequency	High	Low		
Volunteering	Yes	No		
Charitable donations	High	Low		
Political participation	High	Low		
Civic engagement	High	Low		
Community involvement	High	Low		
Neighborhood safety	High	Low		
Local government satisfaction	High	Low		
National government satisfaction	High	Low		
International relations satisfaction	High	Low		
Global issues satisfaction	High	Low		
Environmental concerns	High	Low		
Climate change awareness	High	Low		
Sustainable living practices	High	Low		
Renewable energy usage	High	Low		
Waste management practices	High	Low		
Water conservation practices	High	Low		
Energy efficiency practices	High	Low		
Green building practices	High	Low		
Local food consumption	High	Low		
Organic food consumption	High	Low		
Plant-based diet consumption	High	Low		
Reduced meat consumption	High	Low		
Reduced dairy consumption	High	Low		
Reduced sugar consumption	High	Low		
Reduced salt consumption	High	Low		
Reduced alcohol consumption	High	Low		
Reduced tobacco consumption	High	Low		
Reduced caffeine consumption	High	Low		
Reduced processed food consumption	High	Low		
Reduced fast food consumption	High	Low		
Reduced convenience food consumption	High	Low		
Reduced packaged food consumption	High	Low		
Reduced sugary beverage consumption	High	Low		
Reduced carbon footprint	High	Low		
Reduced energy consumption	High	Low		
Reduced water consumption	High	Low		
Reduced waste production	High	Low		
Reduced paper consumption	High	Low		
Reduced plastic consumption	High	Low		
Reduced metal consumption	High	Low		
Reduced glass consumption	High	Low		
Reduced textile consumption	High	Low		
Reduced furniture consumption	High	Low		
Reduced electronics consumption	High	Low		
Reduced vehicle consumption	High	Low		
Reduced air travel consumption	High	Low		
Reduced meat consumption	High	Low		
Reduced dairy consumption	High	Low		
Reduced sugar consumption	High	Low		
Reduced salt consumption	High	Low		
Reduced alcohol consumption	High	Low		
Reduced tobacco consumption	High	Low		
Reduced caffeine consumption	High	Low		
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Reduced fast food consumption	High	Low		
Reduced convenience food consumption	High	Low		
Reduced packaged food consumption	High	Low		
Reduced sugary beverage consumption	High	Low		
Reduced carbon footprint	High	Low		
Reduced energy consumption	High	Low		
Reduced water consumption	High	Low		
Reduced waste production	High	Low		
Reduced paper consumption	High	Low		
Reduced plastic consumption	High	Low		
Reduced metal consumption	High	Low		
Reduced glass consumption	High	Low		
Reduced textile consumption	High	Low		
Reduced furniture consumption	High	Low		
Reduced electronics consumption	High	Low		
Reduced vehicle consumption	High	Low		
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Reduced sugar consumption	High	Low		
Reduced salt consumption	High	Low		
Reduced alcohol consumption	High	Low		
Reduced tobacco consumption	High	Low		
Reduced caffeine consumption	High	Low		
Reduced processed food consumption	High	Low		
Reduced fast food consumption	High	Low		
Reduced convenience food consumption	High	Low		
Reduced packaged food consumption	High	Low		
Reduced frozen food consumption	High	Low		
Reduced canned food consumption	High	Low		
Reduced bottled water consumption	High	Low		
Reduced plastic bottle consumption	High	Low		
Reduced paper waste consumption	High	Low		
Reduced electronic waste consumption	High	Low		
Reduced textile waste consumption	High	Low		
Reduced furniture waste consumption	High	Low		
Reduced appliance waste consumption	High	Low		
Reduced vehicle waste consumption	High	Low		
Reduced construction waste consumption	High	Low		
Reduced industrial waste consumption	High	Low		
Reduced agricultural waste consumption	High	Low		
Reduced medical waste consumption	High	Low		
Reduced hazardous waste consumption	High	Low		
Reduced radioactive waste consumption	High	Low		
Reduced nuclear waste consumption	High	Low		
Reduced chemical waste consumption	High	Low		
Reduced biological waste consumption	High	Low		
Reduced pharmaceutical waste consumption	High	Low		
Reduced medical device waste consumption	High	Low		
Reduced laboratory waste consumption	High	Low		
Reduced research waste consumption	High	Low		
Reduced development waste consumption	High	Low		
Reduced production waste consumption	High	Low		
Reduced distribution waste consumption	High	Low		
Reduced retail waste consumption	High	Low		
Reduced service waste consumption	High	Low		
Reduced government waste consumption	High	Low		
Reduced military waste consumption	High	Low		
Reduced law enforcement waste consumption	High	Low		
Reduced judicial waste consumption	High	Low		
Reduced legislative waste consumption	High	Low		
Reduced executive waste consumption	High	Low		
Reduced judicial branch waste consumption	High	Low		
Reduced legislative branch waste consumption	High	Low		
Reduced executive branch waste consumption	High	Low		
Reduced judicial branch waste consumption	High	Low		
Reduced legislative branch waste consumption	High	Low		
Reduced executive branch waste consumption	High	Low		
Reduced judicial branch waste consumption	High	Low		
Reduced legislative branch waste consumption	High	Low		
Reduced executive				

[illegible]

FIG. 7



LINE PATTERN SIGNAL TO BE ADDED TO THRESHOLD VALUE

$$P = ((i / 3 + j) \% 4 - 1.5) / 3$$

 i, j: PIXEL OF ITH ROW, JTH COLUMN
 P: INTENSITY (OF 0.1 HEREIN)
 INITIAL THRESHOLD VALUE = $0.5 + 0.05 \times P$

FIG. 8

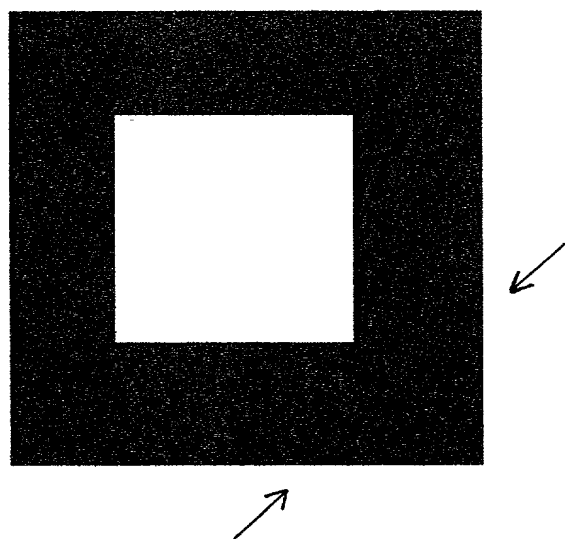
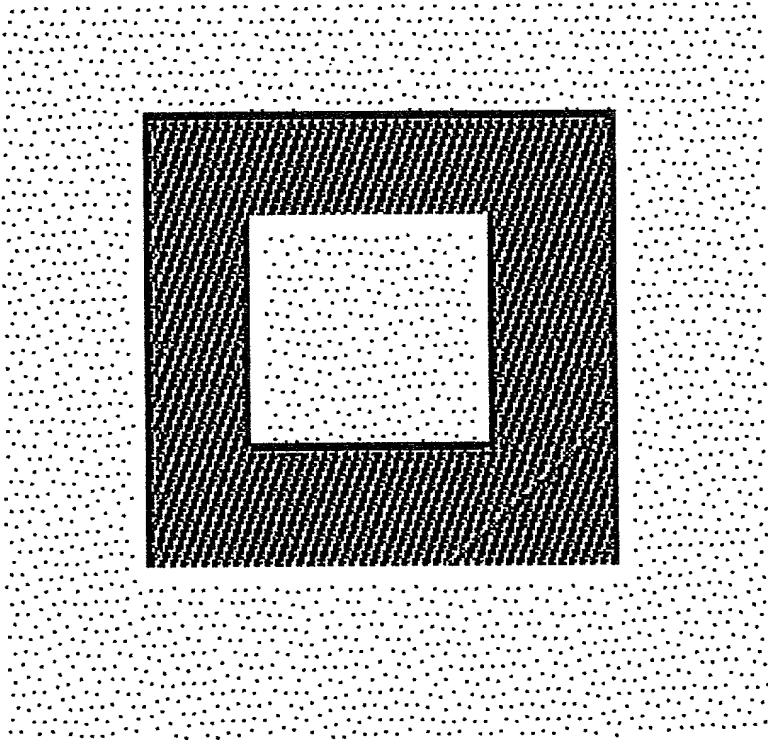
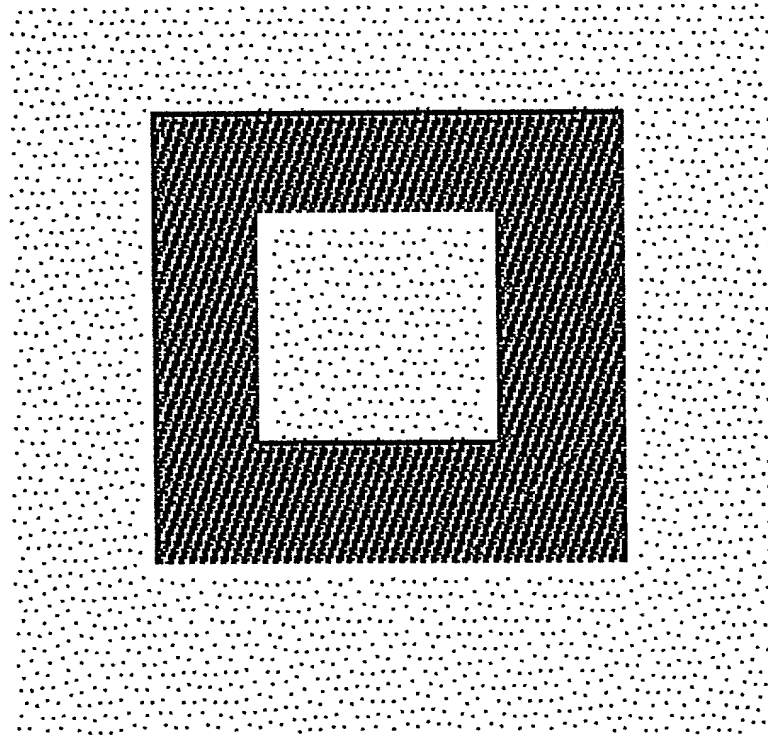


FIG. 9



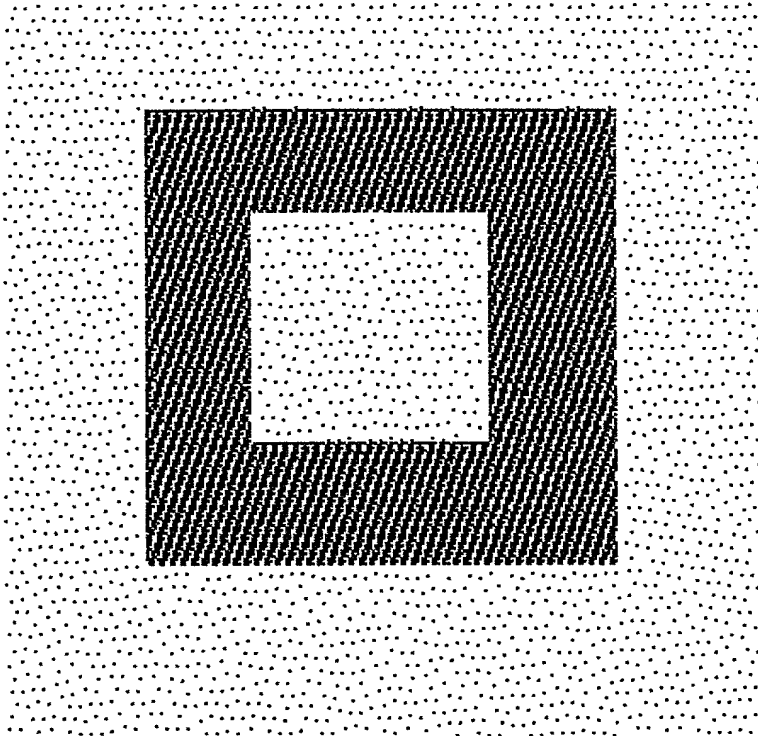
PROCESSING WHEN $k = 0$

FIG. 10



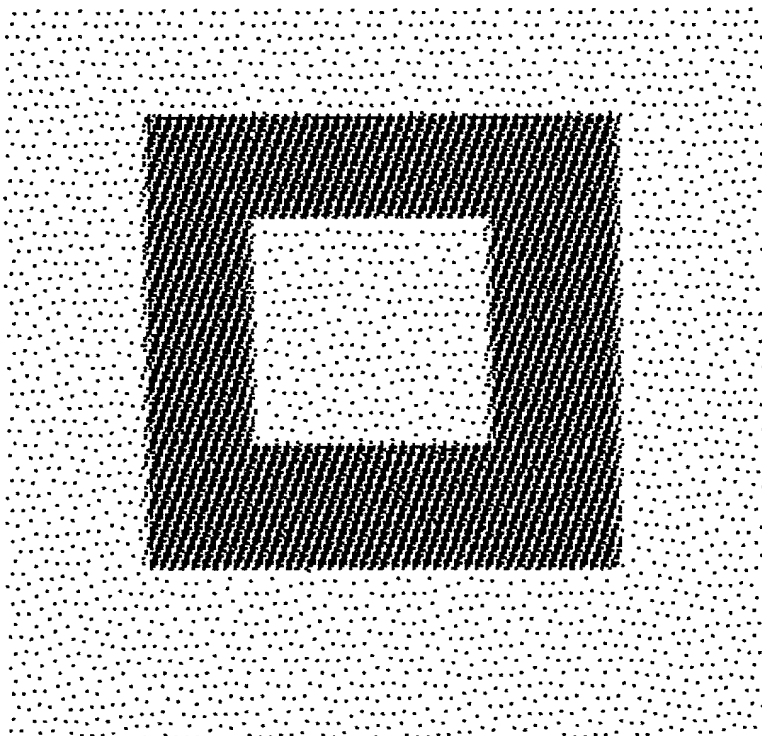
PROCESSING WHEN $k = 0.5$

FIG. 11



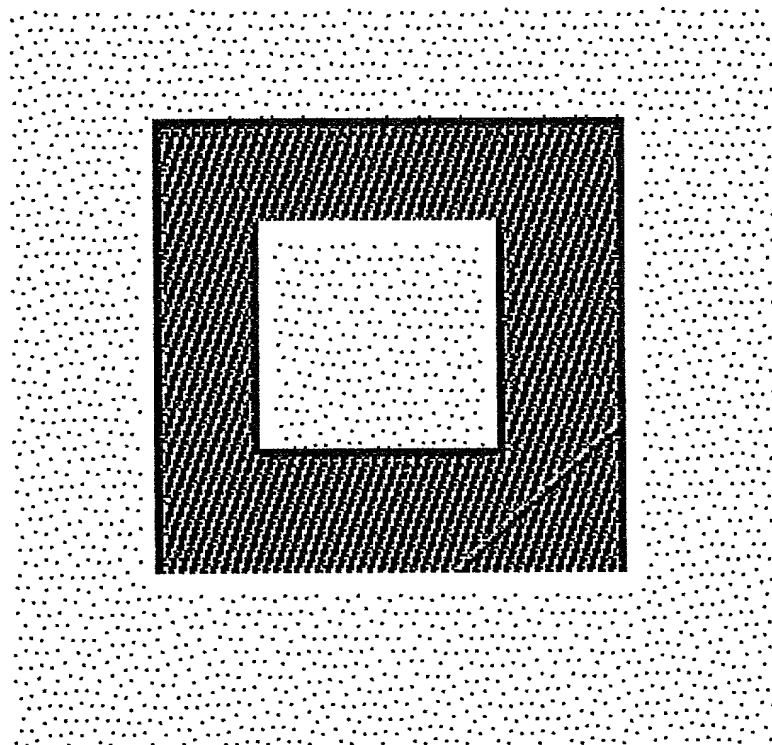
PROCESSING WHEN $k = 0.8$

FIG. 12



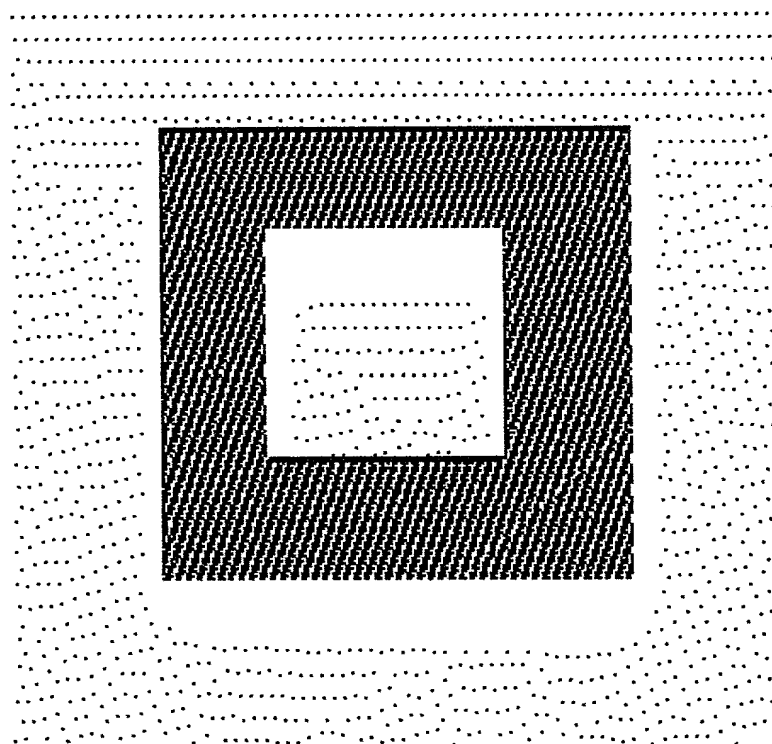
PROCESSING WHEN $k = 1$

FIG. 13



PROCESSING WHEN $k = -0.5$

FIG. 19



PROCESSING WHEN $k = 0$

FIG. 14

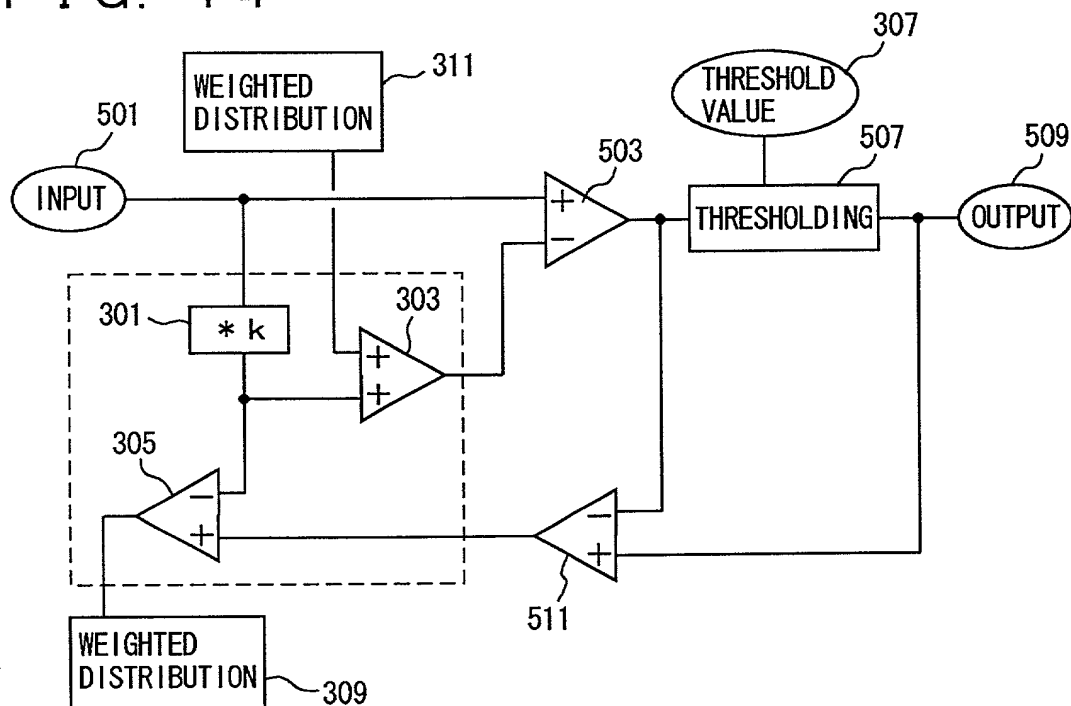
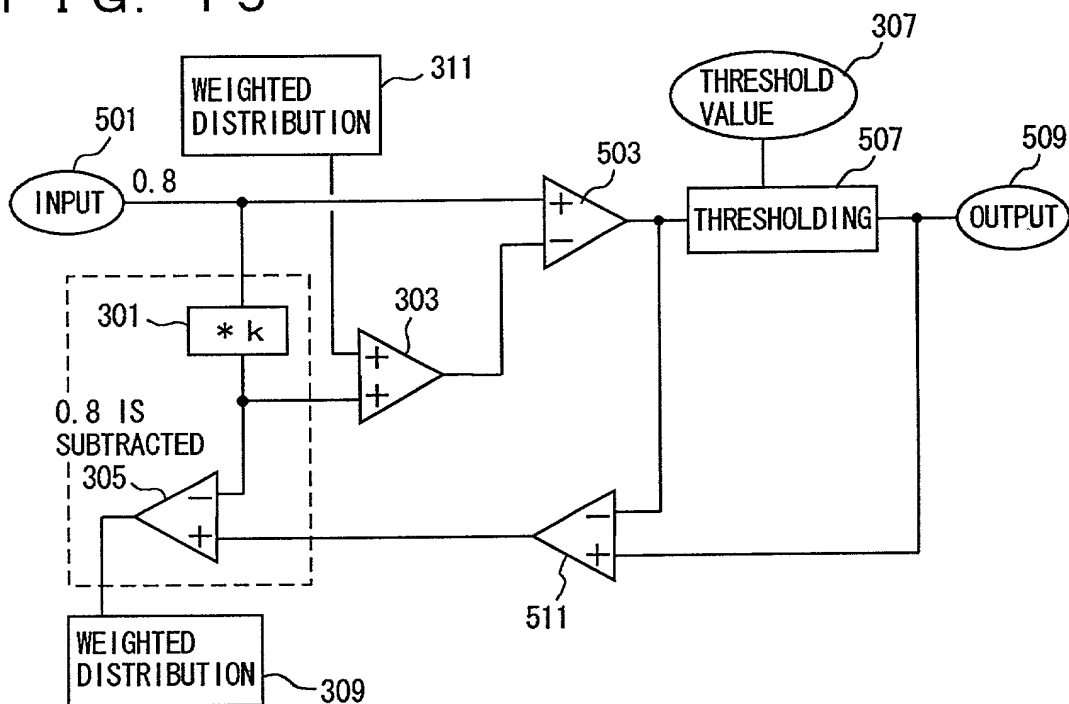


FIG. 15



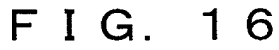


FIG. 18

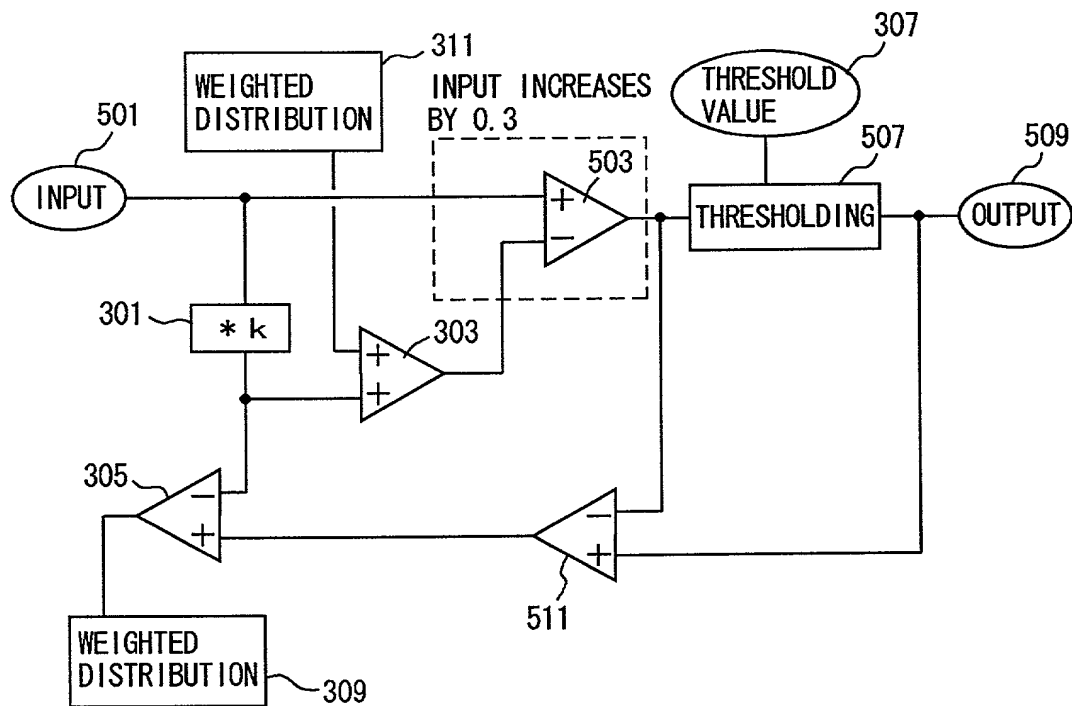
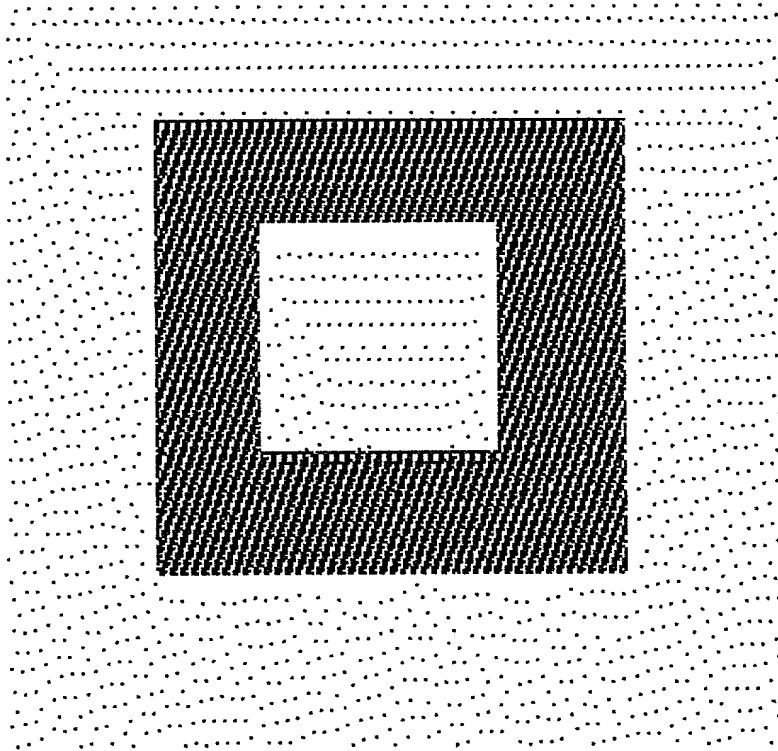
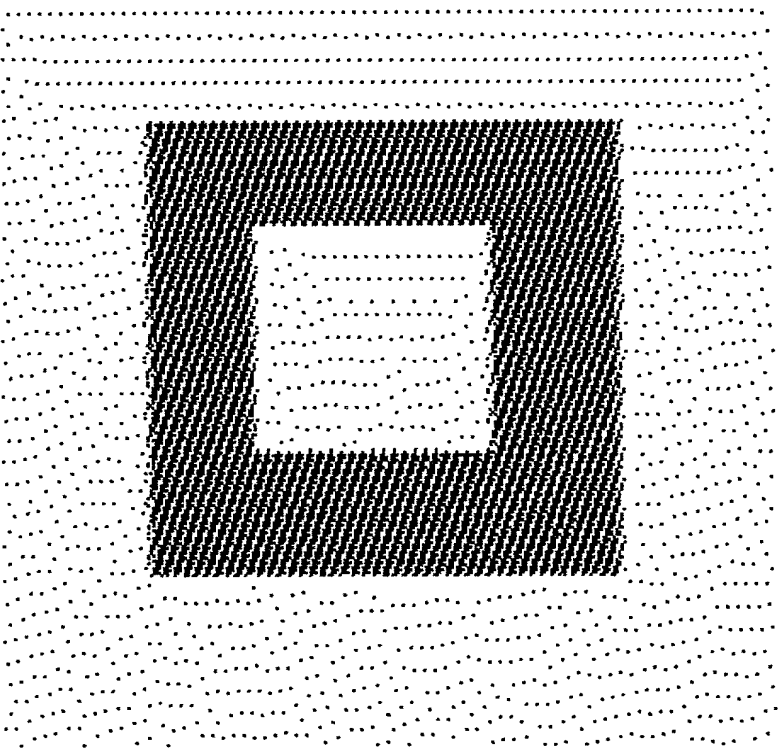


FIG. 20



PROCESSING WHEN $k = 0.6$

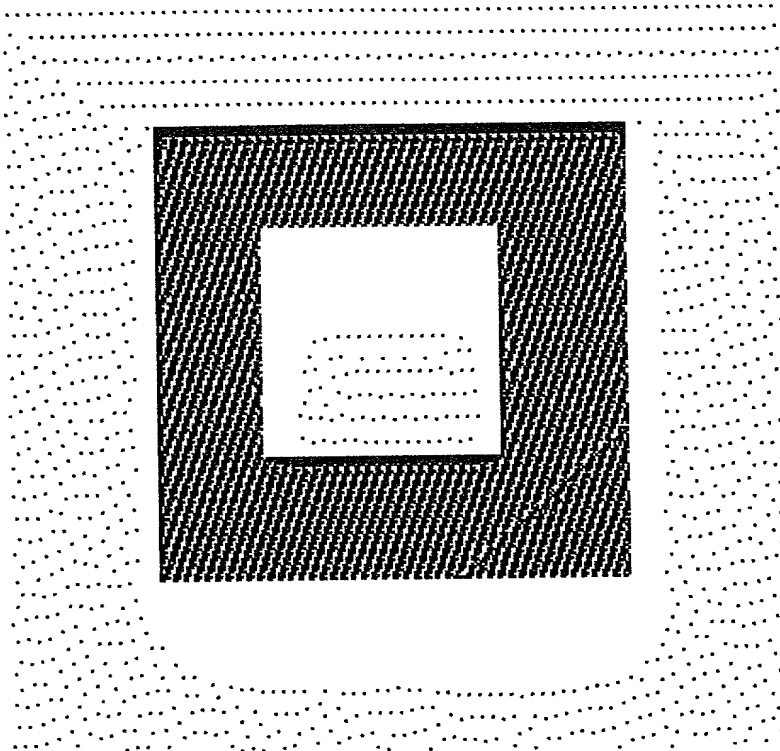
FIG. 21



PROCESSING WHEN $k = 1$

09961241.092501
F05260" F42T9660

FIG. 22



PROCESSING WHEN $k = -0.5$

FIG. 23

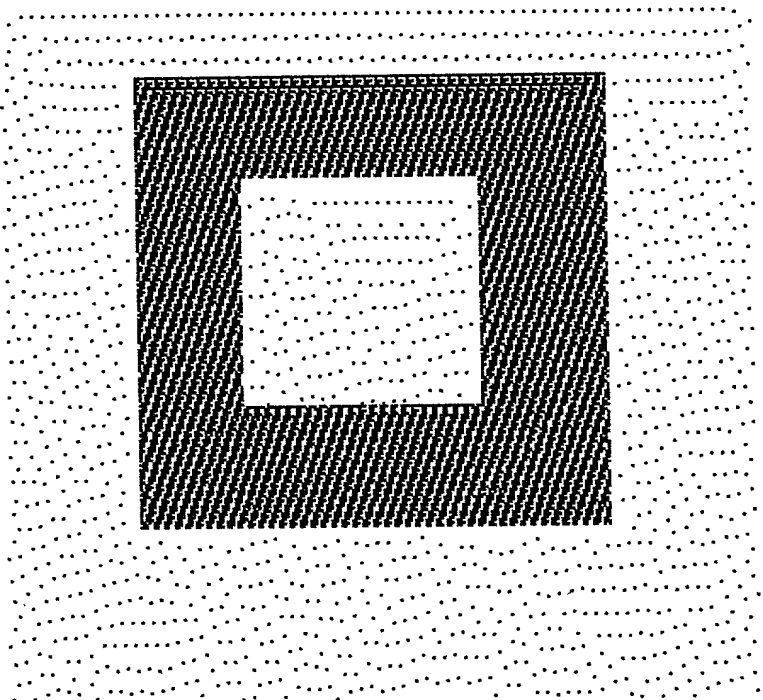


FIG. 24

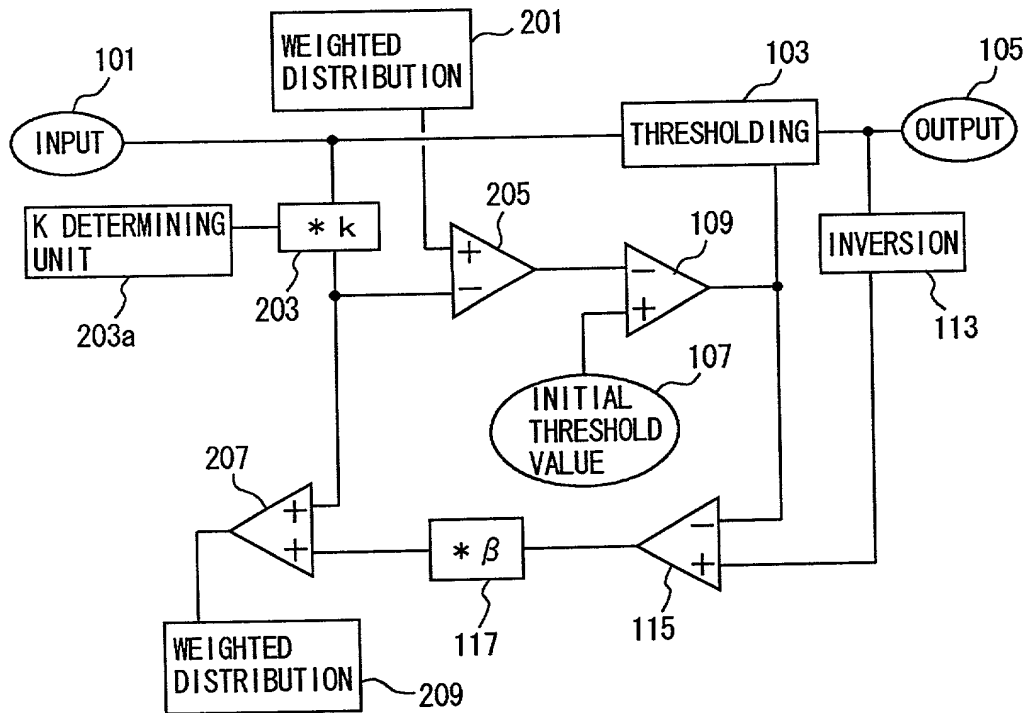


FIG. 25

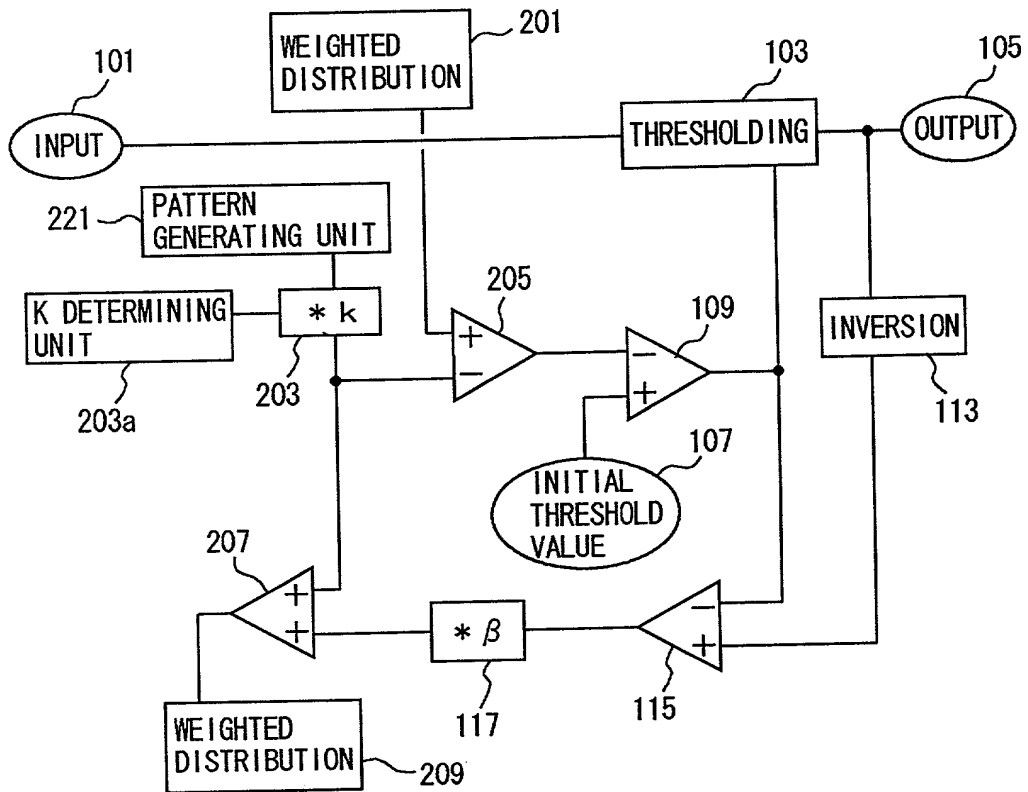


FIG. 26

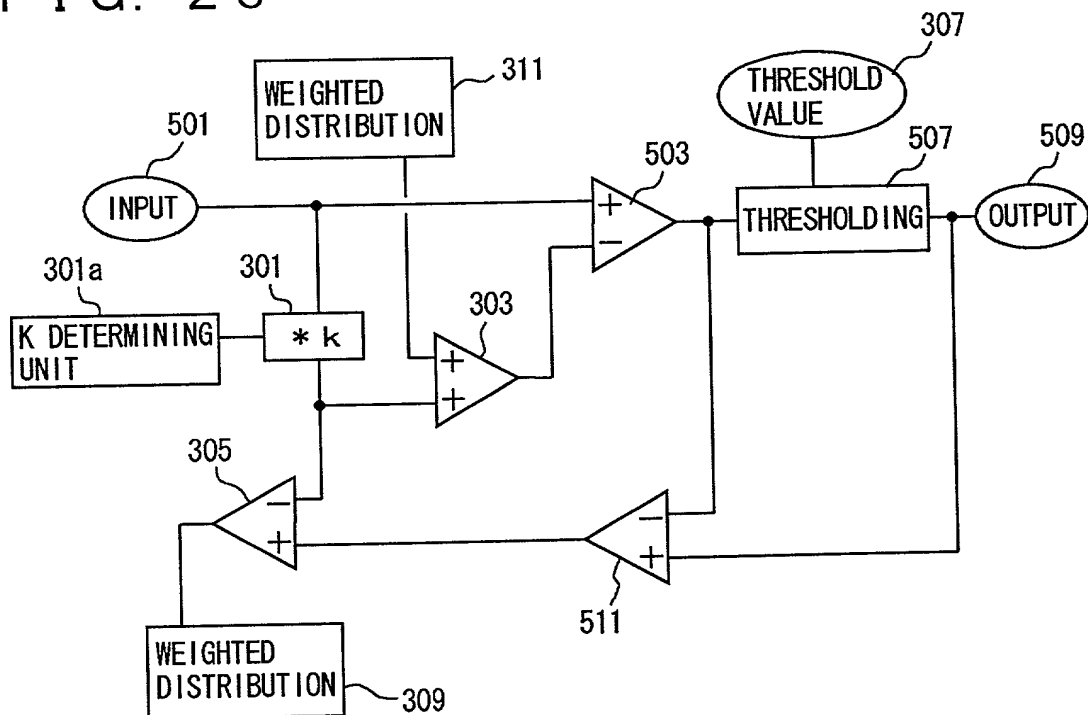


FIG. 27

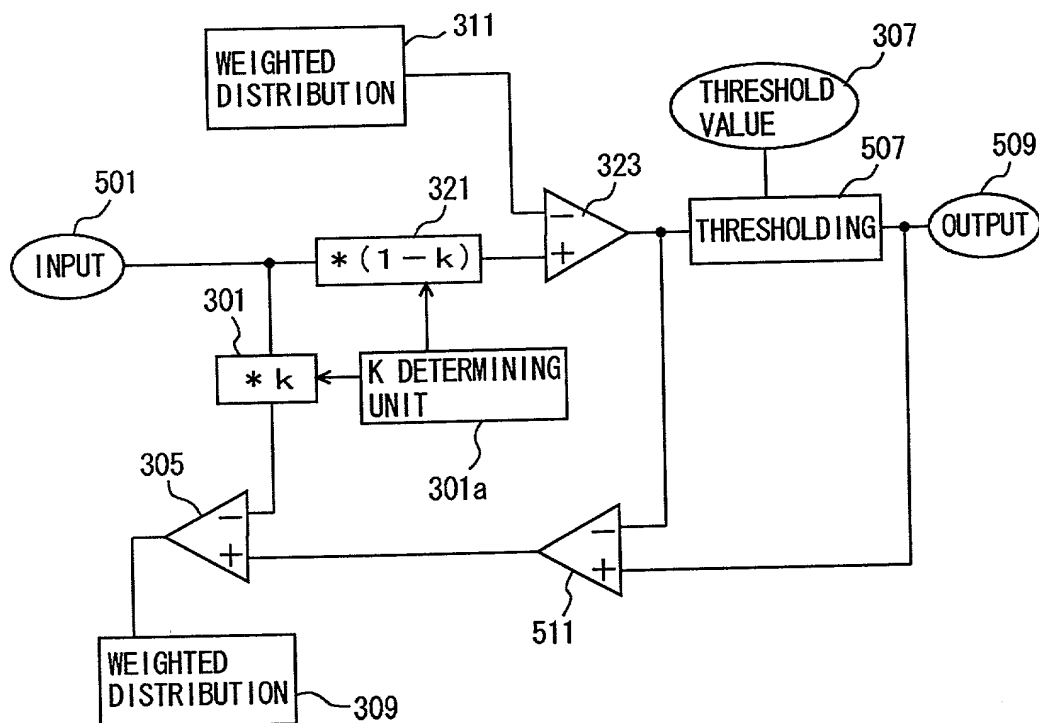


FIG. 28

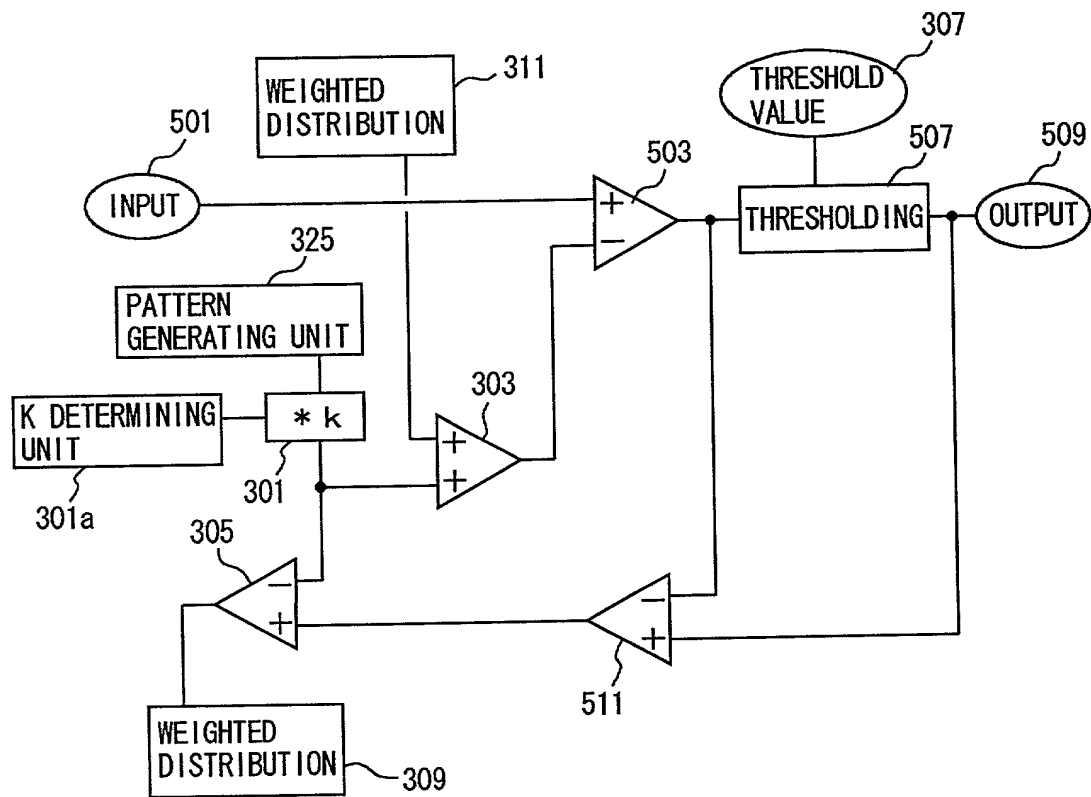


FIG. 29

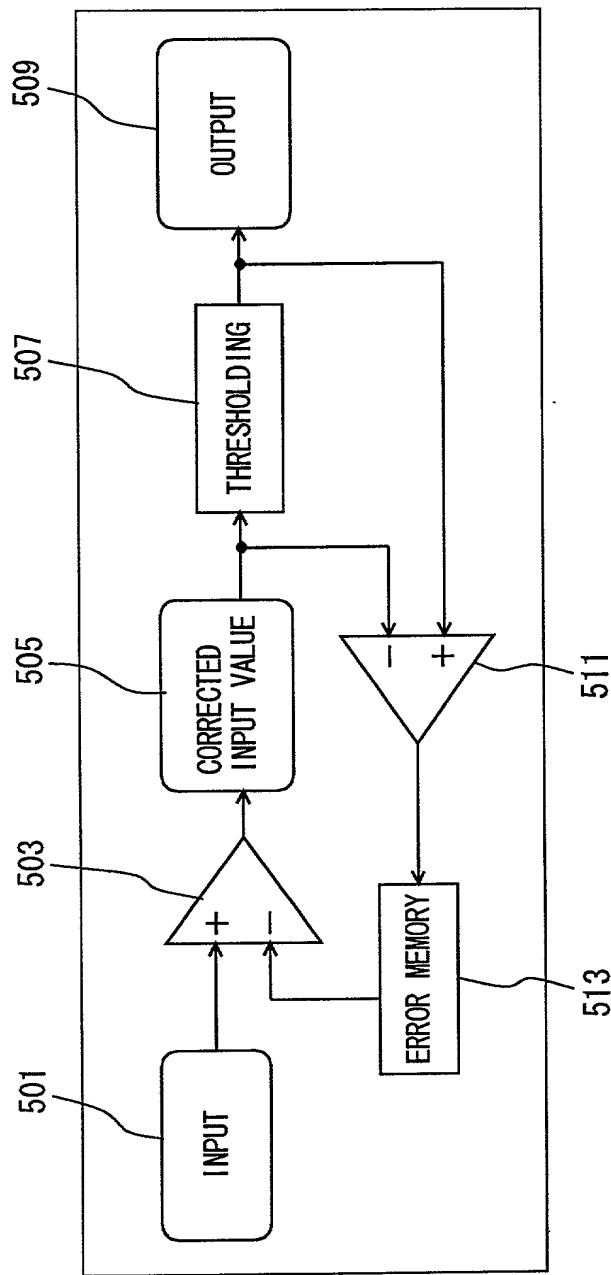


FIG. 30

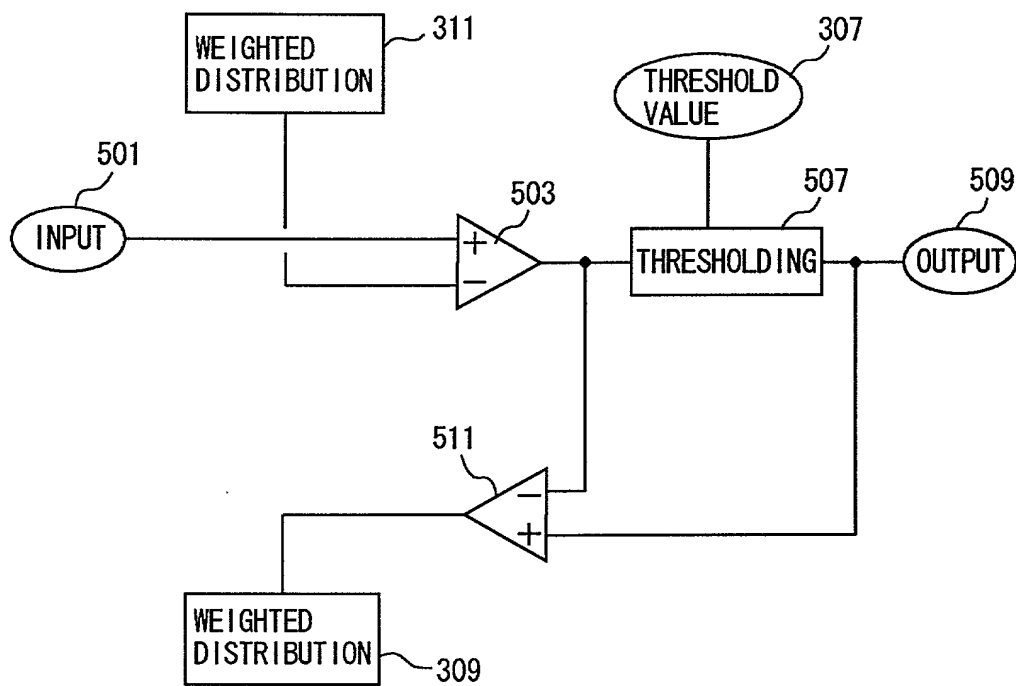


FIG. 32

		○	32	8
2	16	32	16	4
1	4	8	2	1

FIG. 31

100

